



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/916,140	08/21/1997	MATTHEW P. SCOTT	CIBT-P04-203	2613

28120 7590 10/31/2002

ROPES & GRAY
ONE INTERNATIONAL PLACE
BOSTON, MA 02110-2624

EXAMINER

SCHNIZER, RICHARD A

ART UNIT	PAPER NUMBER
----------	--------------

1635

DATE MAILED: 10/31/2002

Sh

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
08/916,140

Applicant(s)
Scott

Examiner
First Last

Art Unit
1234



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Aug 21, 2002
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 61-68 and 70-77 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 61-63, 65, 68, 70, and 72-77 is/are rejected.
- 7) ☒ Claim(s) 64, 66, 67, and 71 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ | 6) <input type="checkbox"/> Other: |

Art Unit: 1632

DETAILED ACTION

An amendment was received and entered as Paper No. 34 on 8/21/02.

Claim 69 was canceled as requested.

Claims 61-68 and 70-77 remain pending and are under consideration in this Office Action.

Priority

This case is a continuation in part of 08/656,065, filed 5/31/96, which is a continuation in part of 08/545,406, filed 10/6/95, which is a continuation in part of 08/319,745, filed 10/7/94. However, the claimed invention finds no support in the disclosures of 08/545,406 or 08/319,745, thus the effective filing date for the instant claims is considered to be 5/31/96.

Rejections Withdrawn

The rejection of claims 63-71, 76 and 77 under 35 USC 112, second paragraph is withdrawn in view of Applicant's amendments.

Compliance With Sequence Rules

Applicant asserts at page 7, item 2 of Paper No. 34 that appropriate documentation for compliance with sequence requirements of 37 CFR 1.821-1.825 was enclosed with the response (Paper No. 34). Either the Office has misplaced this documentation, or Applicant failed to

Art Unit: 1632

provide it, because it does not currently accompany Applicant's response in the case file. As a result, the application continues to fail to comply with the Sequence Rules for the reasons set forth below, reproduced from Paper No. 33.

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825 for the following reason(s). Although the Application contains a Sequence Listing, there is no computer-readable form associated with the application. It is noted that this application claims priority from 08/656,065, 08/545,406, and 08/319,745, and that at least one of these cases had a CRF. However, the instant application contains no statement directing the PTO to use the CRF from any of these parent applications. MPEP 2421.02(e) reads:

(e) A copy of the "Sequence Listing" referred to in paragraph (c) of this section must also be submitted in computer readable form in accordance with the requirements of § 1.824. The computer readable form is a copy of the "Sequence Listing" and will not necessarily be retained as a part of the patent application file. **If the computer readable form of a new application is to be identical with the computer readable form of another application of the applicant on file in the Patent and Trademark Office, reference may be made to the other application and computer readable form in lieu of filing a duplicate computer readable form in the new application if the computer readable form in the other application was compliant with all of the requirements of these rules. The new application shall be accompanied by a letter making such reference to the other application and computer readable form, both of which shall be completely identified. In the new application, applicant must also request the use of the compliant computer readable "Sequence Listing" that is already on file for the other application and must state that the paper copy of the "Sequence Listing" in the new application is identical to the computer readable copy filed for the other application.**

Emphasis added.

Applicant must provide:

Art Unit: 1632

An initial computer readable form (CRF) copy of the "Sequence Listing".

A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

OR

A statement directing the PTO to use a CRF from another Application on file at the PTO.

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (703) 308-4216

For CRF Submission Help, call (703) 308-4212

PatentIn Software Program Support

Technical Assistance.....703-287-0200

To Purchase PatentIn Software.....703-306-2600

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

New Matter

Claims 62 and 72-75 stand rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey

Art Unit: 1632

to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed, invention for the reasons of record in Paper Nos. 18, 25, and 33.

Claims 62 and 72-75 are drawn to methods wherein agents are contacted with a cell having a patched loss of function phenotype in order to identify agents which decrease hedgehog signal transduction in the cell.

The specification discloses at page 20, lines 27-29 an assay in which agents are added to a cell which lacks functional patched gene product, and the ability of the cell to reproduce functional patched gene product is determined. There is no other support for the claimed method in the specification. However, the claimed methods encompass a variety of methods which do not require the production of a functional patched gene product. Because patched is part of signaling pathway, mutations in other pathway proteins can interfere with the ability of patched to exert its function, and would therefore cause a patched loss-of-function phenotype. The specification fails to contemplate the use of such cells in the claimed method. Further, the claims encompass methods of identifying agents which reverse patched phenotype by duplicating patched function in ways other than the production of functional patched gene product, *i.e.* by stimulating or inhibiting the function of the pathway at a point downstream of patched. However, the specification fails to contemplate any method of restoring patched function to a cell lacking that function other than by reproducing functional patched protein in the cell. For this reason the scope of the claim which extends beyond decreasing hedgehog signal transduction by means of adding an agent which reproduces functional patched protein constitutes new matter.

Art Unit: 1632

Response to Arguments

Applicant's arguments filed 8/21/02/02 have been fully considered to the extent that they apply to the rejection set forth above, but they are not persuasive. At page 7 of the response Applicant maintains the arguments of record. These arguments are unpersuasive for the reasons of record in Paper Nos. 25 and 33.

Applicant asserts that the amended claims more explicitly point out the claimed methods. However, Applicant has not pointed to any passage in the specification that provides support for the full scope of the invention as claimed, and Applicant has not otherwise addressed the basis of the rejection by raising any arguments that were not previously addressed in Paper Nos. 25 or 33.

For these reasons the rejection is maintained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 61-63, 65, 68, 70, 72, and 74-77 stand rejected under 35 U.S.C. 102(b) as being anticipated by Li et al (Cell (2/1995) 80: 553-562).

Art Unit: 1632

Li teaches a method of inhibiting hedgehog signal transduction by contacting cells with a nucleic acid encoding constitutively active cAMP-dependent protein kinase (PKA). The cells may comprise wild type patched protein, or may have a patched loss of function phenotype. See entire document, especially paragraph bridging columns 1 and 2 on page 557, and Fig. 7 on page 558, especially panels D and E. The reporter gene can be considered to be *ptc* or *ptc^s*, each of which is operatively linked to patched transcription control elements. The amount of reporter is measured with an anti-*ptc* antibody. See Fig. 7. The nucleic acid can be considered to be in a pharmaceutically acceptable excipient in that it is dissolved in water. The fly embryos receiving the PKA expression construct can be considered to be patients.

Thus Li anticipates the claims.

Claim 61 stands rejected under 35 U.S.C. 102(a) as being anticipated by either one of Noveen et al (Biochem. Biophys. Res. Comm. (2/1996) 219: 180-185) or Hammerschmidt et al (Genes Dev. (3/1996) 10: 647-658).

Noveen teaches a method of inhibiting sonic hedgehog signal transduction in vertebrate skin by treating cultured explants with cAMP. Addition of cAMP results in a decrease in sonic hedgehog expression, which in turn results in a decrease in sonic hedgehog-mediated signal transduction in cells of the tissue explant. See abstract.

Thus Noveen anticipates the claim.

Art Unit: 1632

Hammerschmidt teaches a method of inhibiting hedgehog signal transduction in fish embryos by contacting cells with an mRNA encoding a constitutively active form of PKA. Hedgehog signal transduction was inhibited even in the presence of coinjected mRNAs encoding sonic hedgehog or Indian hedgehog. See entire document, especially abstract and page 653, column 2, lines 7-16.

Thus Hammerschmidt anticipates the claim.

Response to Arguments

Applicant's arguments filed 8/21/02 have been fully considered but they are not persuasive.

Applicant argues at pages 9 and 10 of the response that none of the cited references teaches or suggests each and every limitation of the claims.

Applicant asserts at page 9, item 8, that Li does not teach or suggest methods of identifying agents which decrease hedgehog signal transduction in cells characterized by a loss of function of a patched gene. This assertion is unsupported by evidence or argument. The teachings of Li are summarized above. Applicant has failed to point out where the rejection is in error. Li practices all of the method steps required by the claims.

Applicant asserts at pages 9 and 10 that neither Noveen nor Hammerschmidt teach or suggest methods of identifying agents that decrease hedgehog signal transduction in cells characterized by a loss of function of a patched gene. This assertion is unsupported by evidence or argument. The teachings of cited references are summarized above. Applicant has failed to

Art Unit: 1632

point out where the rejection is in error. The references teach all of the method steps required by the claim.

For these reasons the rejections are maintained.

Conclusion

No claim is allowed. Claims 64, 66, 67, and 71 are objected to because they depend from a rejected base claim, but would be allowable if rewritten in independent form with all of the limitations of the rejected parent claim(s). Claim 73 is free of the art of record.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner(s) should be directed to Richard Schnizer, whose telephone number is 703-306-5441.

Art Unit: 1632

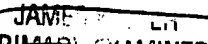
The examiner can normally be reached Monday through Friday between the hours of 6:20 AM and 3:50 PM. The examiner is off on alternate Fridays, but is sometimes in the office anyway.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Leguyader, can be reached at 703-308-0447. The FAX numbers for art unit 1632 are 703-308-4242, and 703-305-3014. Additionally correspondence can be transmitted to the following RIGHTFAX numbers: 703-872-9306 for correspondence before final rejection, and 703-872-9307 for correspondence after final rejection.

Inquiries of a general nature or relating to the status of the application should be directed to the Patent Analyst Trina Turner whose telephone number is 703-305-3413.

Richard Schnizer, Ph.D.


JAMES KETTER
PRIMARY EXAMINER


JAMES KETTER
PRIMARY EXAMINER